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ABSTRACT

The study, conducted in 1971, assessed characteristics of licensed practical nurses (LPN's) who worked in occupational health nursing. The survey instrument, a questionnaire, was returned by 591 LPN's in occupational health and provided data related to: personal characteristics, work and setting, administrative and professional functioning, educational characteristics, economics, and verbatim comments. The instrument, an RN-LPN profile, and a review of the data are included in the report. The results of the survey are reported, answering four basic questions that motivated the study: (1) How can LPN's supplement registered nurses (RN's) in industry? Rather than supplement the RN in industry, 75 percent of LPN's work as the only nurse. (2) What additional training in occupational health is needed by the LPN's? Less than 30 percent of LPN's surveyed had additional continuing education in the occupational health area. (3) Can the LPN's function effectively in the delivery of health care services to workers? The LPN frequently performs RN functions in the occupational setting, without sufficient training or supervision. (4) What supervision is needed by the LPN? The data indicates a legal and professional dilemma; in 50 percent of the case studies, the LPN had no supervision. Tabulated data is appended. (MW)

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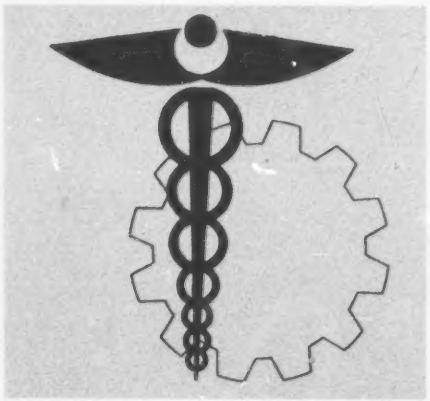

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Licensed Practical Nurses in Occupational Health— An Initial Survey

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LICENSED PRACTICAL NURSES IN OCCUPATIONAL HEALTH

JANE A. LEE

RUTH R. HERZOG

JOHN H. MORRISON, Jr.

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
CENTER FOR DISEASE CONTROL
NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
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TABLE OF CONTENT

INTRODUCTION	1
DESIGN OF SURVEY AND QUESTIONNAIRE	3
TECHNICAL NOTES ON PROCEDURE	11
STUDY RESULTS - PERSONAL CHARACTERISTICS	13
STUDY RESULTS - WORK AND SETTING	15
STUDY RESULTS - ADMINISTRATIVE AND PROFESSIONAL FUNCTIONING	17
STUDY RESULTS - EDUCATIONAL CHARACTERISTICS	19
STUDY RESULTS - ECONOMICS	21
STUDY RESULTS - COMMENTS	23
RN-LPN PROFILE	31
SUMMARY	33
REFERENCES	35
APPENDIX	37

LICENSED PRACTICAL NURSES IN OCCUPATIONAL HEALTH

INTRODUCTION

There is a critical shortage in the trained manpower needed to staff occupational health units in industry with qualified professional and allied health workers. It is essential that there be full utilization of potential sources of manpower, including the Licensed Practical Nurse(LPN). Thus we must find answers to questions such as:

How can LPN's supplement Registered Nurses(RN's) in industry?

What additional training in occupational health is needed by the LPN's?

Can the LPN's function effectively in the delivery of health care services to workers?

What supervision is needed by the LPN's?

This study by the National Institute for Occupational Safety and Health (NIOSH) conducted in 1971 is a first step in determining answers to these complex questions.

The purpose of the study was to assess by a mailed questionnaire certain characteristics of LPN's who work in occupational health nursing. The educational status, personal characteristics, nursing practices, and the industrial setting of the LPN in occupational health have been analyzed for use by employers, nurse educators, health planners, and related interest groups.

Prior to 1971 information about LPN's in industry was scant, although it was known that there were over 1,000 LPN's working in an industrial setting. While the number, field of employment, employment status and personal characteristics of LPN's generally have been surveyed[1] for those working in industry, there was a need for additional information and further study of certain questions. This survey was designed to obtain this information and to provide a profile of licensed practical nurses who are working in occupational health.

DESIGN OF SURVEY AND QUESTIONNAIRE

At the time of the survey, 1,086 Licensed Practical Nurses were involved in occupational health care. The American Nurses' Association had the names and addresses of 1,007 LPN's who had indicated on their application for renewal of their license to their State Board of Licensure that they worked in industry.[2] These LPN's were used as the study group.

At any single point in time these renewal applications can be as much as three years old for a particular individual since the renewals are not annual in many locations. Thus the study included questions to determine the current status of the individual.

The questionnaire was patterned somewhat after the questionnaire which was designed for a study of registered nurses working in industry. The study, "Occupational Health Nurses - an Initial Survey," was conducted in 1964 by NIOSH. The LPN study questionnaire was pre-tested by a small number of LPN's who work in the area where the authors are located (Cincinnati, Ohio).

The complete questionnaire with the cover letter follows.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
PUBLIC HEALTH SERVICE
National Institute for Occupational Safety and Health
550 Main Street, Rm. No. 7015
Cincinnati, Ohio 45202

Dear Licensed Practical Nurse:

As one of over 1,000 licensed practical nurses listed as working in occupational health nursing, we are asking you to participate in a survey, Licensed Practical Nurses Who Work in Occupational Health, conducted by the National Institute for Occupational Safety and Health, Public Health Service, U.S. Department of Health, Education, and Welfare.

Enclosed you will find a questionnaire which we hope you will complete and return in the self-addressed post-paid envelope. It takes less than ten minutes of your time to answer all of the questions. Please note that to avoid a great deal of repetition, the use of the term "licensed practical nurse" will include the licensed vocational nurse. An occupational health nurse is any nurse who practices in an industrial, commercial or government agency and cares for the workers or employees in that establishment. Occupational health nurses are sometimes referred to as industrial nurses.

If you are not presently engaged in practical nursing in occupational health, please answer Questions 5 and 30, and return to this office. Your cooperation is essential for the survey to be a success.

From the completed questionnaire, information will be gathered to compile a comprehensive profile on LPN's who work in occupational health. Such data are very important to nursing and to nurse educators. The results of this report will be available to you, to your nursing associations and to the professional nursing journals. Individual replies will be treated with complete confidentiality.

Please return the completed questionnaire within two weeks, using the enclosed envelope. Your cooperation in this survey is greatly appreciated.

Sincerely yours,

Jane A. Lee

Jane A. Lee, R.N.
Occupational Health Nurse Consultant

ASSURANCE OF CONFIDENTIALITY – The U.S. Public Health Service hereby gives its assurance that your identity and your relationship to any information obtained by reason of your participation in the Survey of Licensed Practical Nurses Who Work in Occupational Health will be kept confidential in accordance with PHS Regulations (42 CFR 1.101-1.108) and will not otherwise be disclosed.

DEPARTMENT OF

HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH, RM. NO. 7015
550 MAIN STREET, CINCINNATI, OHIO 45202

IDENTIFICATION NUMBER

SURVEY OF LICENSED PRACTICAL NURSES WHO WORK IN OCCUPATIONAL HEALTH

INSTRUCTIONS: PLEASE READ BEFORE ANSWERING

Answer each question that applies to you by placing "X" in the box before the answer that best describes you.

If there is an "*" after the box, please follow the instruction below it.

If the question asks for specific information, please explain in your own words.

For clarification, an occupational health nurse is any nurse who practices in an industrial or commercial establishment, or governmental agency and cares for the workers or employees in that establishment or agency.

If you are not presently employed in practical nursing in occupational (industrial) health, please answer questions 1 through 5 and 30, then return this questionnaire in the enclosed, preaddressed envelope.

NOTE: If you are interested in receiving a copy of the results of this survey, enter your name and current mailing address here:

NAME	STREET ADDRESS
CITY	STATE ZIP CODE

1. AGE _____ Years

2. SEX
☐ M
☐ F

3. MARITAL STATUS
☐ MARRIED ☐ DIVORCED OR SEPARATED
☐ WIDOWED ☐ NEVER MARRIED

4. Do you work as a licensed practical nurse in occupational (industrial) health?

☐ YES. If "Yes", in what State are you employed _____

☐ NO*

*If "No", please answer questions 5 and 30 only.

5. If you do not work as a licensed practical nurse in occupational (industrial) health, which of the following best describes your present situation?

☐ EMPLOYED IN ANOTHER FIELD OF NURSING, *(Specify)*: _____

☐ EMPLOYED BUT NOT IN NURSING.

☐ NOT EMPLOYED BUT LOOKING FOR WORK IN NURSING.

☐ NOT EMPLOYED BUT LOOKING FOR WORK IN A FIELD OTHER THAN NURSING.

☐ FULL-TIME STUDENT.

☐ HOUSEWIFE.

☐ RETIRED.

☐ OTHER *(Specify)*: _____

Skip to question 30.

6. For what kind of company, firm or organization do you work?

☐ MANUFACTURING *(For example: steel, metal, wood, food or communications processing, etc.)*

☐ NON-MANUFACTURING *(For example: bank, department store, or hospital health unit.)*

☐ GOVERNMENT.*

*THIS IS A ☐ FEDERAL,
☐ STATE, OR
☐ LOCAL EMPLOYEE HEALTH UNIT.

7. How many employees are entitled to services from the health unit in which you work?

☐ UNDER 100
☐ 100-249
☐ 250-499
☐ 500-999
☐ 1,000-2,499
☐ 2,500-4,999
☐ 5,000 OR OVER

8. On an average day, how many employees visit the health unit? _____

9. Is the health unit in which you work:

☐ THE ONLY HEALTH UNIT IN YOUR WORKPLACE?

☐ ONE OF TWO OR MORE HEALTH UNITS IN YOUR WORKPLACE?

☐ NEITHER OF THE ABOVE? PLEASE EXPLAIN: _____

10. In the health unit in which you work, how many licensed practical nurses are employed there altogether, counting yourself?

_____

11. How many Registered nurses are employed there altogether? _____

12. What type of nursing position do you hold?

- ☐ ONLY NURSE (I.E., WORKS ALONE)
- ☐ HEAD NURSE
- ☐ STAFF NURSE
- ☐ SUPERVISOR
- ☐ OTHER *(Specify)* _____

13. Who supervises the nursing duties you perform?

- ☐ R.N.
- ☐ PHYSICIAN
- ☐ LPN IN CHARGE
- ☐ OTHER, EXPLAIN: _____

14. Who is responsible for administrative matters for the health unit?

- ☐ A MEMBER OF THE PERSONNEL OR EMPLOYEE RELATIONS, OR INDUSTRIAL RELATIONS DEPARTMENT?
- ☐ A MEMBER OF THE SAFETY DEPARTMENT?
- ☐ SOME OTHER PERSON (What is his position)?

_____

15. Do you give direct health care to employees?

- ☐ YES → If "Yes," on an average day, to how many employees do you give this care?
  - ☐ 0-9
  - ☐ 10-19
  - ☐ 20-29
  - ☐ 30 OR MORE
- ☐ NO → If "No," describe briefly your present duties:

_____

_____

_____

16. How many hours is your usual work week? _____ hrs.

17. How are you scheduled to work?

- ☐ DAYLIGHT HOURS/SHIFT ONLY
- ☐ EVENING HOURS/SHIFT ONLY
- ☐ NIGHT HOURS/SHIFT ONLY
- ☐ ROTATING SHIFTS
- ☐ OTHER (EXPLAIN): _____

18. While you are on duty, is there a physician present in the health unit?

- ☐ YES, FULL-TIME
- ☐ YES, PART-TIME
- ☐ NO → When a physician is <u>not</u> present, is there a designated "on call" physician available to you?
  - ☐ YES
  - ☐ NO

19. Do you have written standing orders (medical directives) as a guide to give care?

- ☐ NO
- ☐ YES, NOT SIGNED BY A PHYSICIAN
- ☐ YES, THEY ARE SIGNED BY A PHYSICIAN

20. Does your health unit have a nursing policy and procedures manual? ☐ YES ☐ NO

21. In what type of program for practical nursing did you receive your training?

- ☐ SECONDARY SCHOOL OTHER THAN TRADE OR TECHNICAL
- ☐ JUNIOR OR COMMUNITY COLLEGE
- ☐ TRADE, TECHNICAL, OR VOCATIONAL SCHOOL
- ☐ SENIOR COLLEGE OR UNIVERSITY
- ☐ HOSPITAL
- ☐ OTHER *(Specify)* _____

_____

22. How many months were you in training? _____ *(Months)*

23. In what year did you receive your LPN certificate? 19____

24. Since receiving an LPN certificate, have you attended an education program leading to eligibility for RN licensure?

- ☐ NO
- ☐ YES, IN AN ASSOCIATE DEGREE (2 year nursing)
- ☐ YES, IN A DIPLOMA (3 year nursing)
- ☐ YES, IN A BACCALAUREATE (4 year nursing)

25. Have you attended education programs on subjects relating to occupational health (industrial) nursing?

- ☐ NO
- ☐ YES*

* If "Yes," please list title of course(s), length, and where given:

_____

_____

_____

26. Which of the following fields of nursing had you ever worked in before your present position?

(Check all that apply)

- ☐ LPN IN A HOSPITAL
- ☐ PRIVATE DUTY NURSE
- ☐ LPN IN PUBLIC HEALTH
- ☐ DOCTOR'S OFFICE NURSE
- ☐ OTHER *(Specify)* _____
- ☐ NONE. This is my first position in nursing.

27. In what year did you first start working in occupational health nursing? 19 _____

28. When you were hired in your present position, did you replace a registered nurse?

- ☐ YES
- ☐ NO
- ☐ DON'T KNOW

29. At your present rate of pay, before deductions, how much do you earn weekly from your work as an occupational health licensed practical nurse? $ _____ per week

30. Please add any comments you wish to make about your work in occupational (industrial) health.

TECHNICAL NOTES ON PROCEDURE

Of the 1,007 forms which were mailed out, 585 or 58.2 percent were completed and returned. About 17.3 percent (174) of the original mailings were returned by the post office and about 24.4 percent (245) did not respond. A follow-up letter was mailed about two weeks after the original mailing, and six forms were completed and returned.

Generally the tables concern LPN's working in occupational health nursing. There is one table designed for LPN's no longer working in occupational health which describes their present situation (Table A-1, Appendix). The various questions have different percentages of persons that did not state any answers. In preparing percentage distribution, we generally do not include this group and have tried to make this explicit in the tables. In the text, however, we do not always do this. This procedure is used so that the relationships among the items becomes clear.

We have used the same regions as were used in the nation-wide LPN study of 1967 that was mentioned previously. These geographic regions do not coincide with the administrative regions in the U.S. Department of Health, Education, and Welfare, but were used to permit comparisons with the previous study.

Percentages may not add to 100.0 percent due to rounding. Percentage tables which have more than one variable may differ from those which have only one variable because of the variations in the completeness with which individual LPN's responded as some answered only one part.

The following sections present the data from the survey believed to be relevant to an assessment of the role of the LPN in providing occupational health nursing care.

STUDY RESULTS - PERSONAL CHARACTERISTICS

Of the 591 LPN's who returned questionnaires, 45 percent were currently working in occupational health nursing and the remainder, 55 percent were in a variety of other nursing fields or were not then in nursing. Of those that were not in occupational health nursing, over 40 percent (42.0%) were still currently employed in nursing: the largest group working in hospitals (17.8%) and others in extended care facilities (6.4%) and in clinics or in physician's offices (6.1%). The remainder of those LPN's (58.0%) not now in occupational health nursing are housewives (16.9%), retired (15.6%), or employed in other jobs (15.3%). Interestingly enough some of the LPN's employed in other non-nursing jobs gave first aid as part of their job. For further details see Table A-1.* The remainder of the report concerns only those LPN's working in occupational health.

As noted earlier, 266 of the LPN's who answered the questionnaire were currently working in occupational health nursing. Of these only about eight percent are males. Specifically the number and percent of LPN's in occupational health by sex are:

SEX	NUMBER	PERCENT STATED
TOTAL	266	100.0
Male	20	7.6
Female	244	92.4
Not Stated	2	--

The average age (both mean and median) of the LPN in occupational health is about 50. It is interesting to note that five percent are between 65-69 and 1.4 percent are 70 or over. Number and percent of occupational health LPN's by age is:

	NUMBER	PERCENT STATED
TOTAL	266	100.0
Under 25	2	0.9
25-29	9	4.1
30-34	14	6.3
35-39	14	6.3
40-44	25	11.3
45-49	35	15.8
50-54	42	18.9
55-59	40	18.0
60-64	27	12.2
65-69	11	5.0
70+	3	1.4
Not Stated	44	--

*Tables A-1 through A-29 are found in the Appendix

Two thirds of the occupational health LPN's are married, and under 10 percent have never married. About one-fourth have been married, but are not now married. Specifically, the distribution is:

MARITAL STATUS	NUMBER	PERCENT STATED
TOTAL	266	100.0
Married	169	66.8
Widowed	28	11.1
Divorced/Separated	36	14.2
Never Married	20	7.9
Not Stated	13	-

The East North Central Portion of the United States has the largest number of occupational health LPN's - about one-third. The West North Central (2.6%) and the Mountain (0.8%) geographic areas have the lowest percentages (Chart 1).

PERCENT OF OCCUPATIONAL HEALTH LPN"S BY GEOGRAPHIC REGION: NIOSH LPN STUDY, NOV. 1971.

CHART 1

1. New England
   - Connecticut
   - Maine
   - Massachusetts
   - New Hampshire
   - Rhode Island
   - Vermont
2. Middle Atlantic
   - New Jersey
   - New York
   - Pennsylvania
3. South Atlantic
   - Delaware
   - District of Columbia
   - Florida
   - Georgia
   - Maryland
   - North Carolina
   - South Carolina
   - Virginia
   - West Virginia
4. East North Central
   - Illinois
   - Indiana
   - Michigan
   - Ohio
   - Wisconsin
5. East South Central
   - Alabama
   - Kentucky
   - Mississippi
   - Tennessee
5. West North Central
   - Iowa
   - Kansas
   - Minnesota
   - Missouri
   - Nebraska
   - North Dakota
   - South Dakota
7. West South Central
   - Arkansas
   - Louisiana
   - Oklahoma
   - Texas
8. Mountain
   - Arizona
   - Colorado
   - Idaho
   - Montana
   - Nevada
   - New Mexico
   - Utah
   - Wyoming
9. Pacific
   - Alaska
   - California
   - Hawaii
   - Oregon
   - Washington

STUDY RESULTS - WORK AND SETTING

Over 85 percent of the LPN's in occupational health nursing worked for a manufacturing company. Non-manufacturing businesses employed less than 10 percent, while industrial clinics employed less than 5 percent and government (local, state, and federal combined) less than 3 percent (Table A-2).

The occupational health LPN generally works for an industrial organization which has less than a thousand employees who are entitled to health services (28.2%). About 15 percent work where there are under 250 employees, over 15 percent where there are 1000-2499 employees, and over 10 percent where there are 2500 or more employees (Table A-3).

About 85 percent of the LPN's worked in the only health unit in the workplace while over 10 percent had more than one health unit in the workplace. The remainder worked in clinics or had another response (Table A-4).

Questions were asked to determine the scope of the LPN's nursing care and to explore staffing patterns between the RN and the LPN as this relates to case load.

About one-third of the LPN's worked where there were 10-24 employee visits to the health unit per day, nearly 30 percent worked where there were 25-49 visits. There were just under 10 percent who had less than 10 visits a day. On the upper end of the scale, percentages decreased from over 15 percent for 50-99 employee visits to about 2 percent of the LPN's who worked in places where there were 300 or more visits per day (Table A-5).

Table A-6 shows the visits per day by number of employees. There are, of course, a few entries which are virtually impossible and are probably key punch errors or respondent errors. However, the largest percentage, about 51 percent, stated that in the industry employing from 250 to 499 workers there were from 10 to 24 visits per day to the health unit. As one would expect there is a tendency towards "as employee size increases, visits per day increase," but there are many exceptions to this generalization.

Interestingly enough, approximately the same percentage of LPN's are in each of the four categories of average number of persons to whom the LPN gives direct care - between 20 and 25 percent. Less than

10 percent have a variable case load (Table A-7). Generally as the number of employees increases, the number of persons to whom the LPN gives direct care increases (Table A-8). It follows then that, as the number of visits to the health unit increases the number of persons to whom the LPN gives direct care increases (Table A-9).

Two-thirds of the LPN's are the only LPN working in the particular health unit. The number and percent of occupational health LPN's by the number working in the units is as follows:

NUMBER OF LPN'S IN HEALTH UNIT	NUMBER	PERCENT
TOTAL	266	100.0
Only	178	66.9
2	48	18.0
3	21	7.9
4,5	8	3.0
6-9	9	3.4
10 and Over	2	0.8

Obviously the locations with more LPN's are those workplaces with larger number of employees and/or larger number of visits to the health unit (Table A-10 and A-11). As the number of visits to the LPN increases, the percentages who are the only LPN decreases (Table A-12).

Almost two-thirds of the LPN's have no Registered Nurse (RN) working with them. Over 20 percent have one RN working with them (Table A-13).

About 45% of the LPN's who responded said they were the only nurse in the health unit and in nearly half of the cases this was a staff nurse:

TYPE OF POSITION HELD BY LPN	NUMBER	PERCENT
TOTAL	266	100.0
Only Nurse	120	45.1
Staff Nurse	130	48.9
Head Nurse or Supervisor	10	3.8
Other	6	2.3

Over one-third of the LPN's replaced an RN when hired into their present position. Specifically the distribution is:

LPN REPLACED RN?	NUMBER	PERCENT
TOTAL	266	100.0
Yes	92	36.9
No	145	58.2
Don't Know	12	4.8
Not Stated	17	--

STUDY RESULTS - ADMINISTRATION AND PROFESSIONAL FUNCTIONING

Questions were asked to gather information on nursing supervision, medical direction, and on the availability of nursing policies and procedures for the LPN, in the absence of the above supervisors.

The occupational health LPN is most often supervised by a physician (over half the time) while an RN is the supervisor to over 20 percent of the LPN's. No supervisor is reported by over 15 percent of the LPN's. The remainder are supervised by another LPN, by a member of personnel or management, or by someone else (Table A-14). Of particular interest are those LPN's who work as the only nurse. Two-thirds state that they are supervised by a physician, but over 25 percent say that they have no supervision. To put it a different way, the category "only nurse" applies for over 75 percent of those who state they do not have supervision (Table A-15).

The department responsible for administrative matters for over 75 percent of the LPN's is the personnel, the employee relations, or the industrial relations department. The safety department is responsible for nearly 10 percent of the LPN's while other responses including "physician" or "management" account for the remainder (Table A-16).

For over 10 percent of the LPN's there is a physician on duty full time while over 15 percent of the LPN's have a physician on duty part time. Most often, for nearly 70 percent of the LPN's, a physician is on call. In a small number of cases, nearly two and one-half percent, there is no physician available (Table A-17).

Over 60 percent of the LPN's have written standing orders (medical directives) that are signed by a physician as a guide to give care. Another 14 percent have them, but these are not signed by a physicain. Over 25 percent, though, have no standing orders. The specific number and percents are:

STANDING ORDERS?	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
No	66	25.5
Yes, Not Signed	35	13.5
Yes, Signed	158	61.0
Not Stated	7	--

Table A-18 shows the number and percent of those occupational health LPN's by whether they have standing orders and by whether there is a physician present. Most of this table is as expected. Of particular interest is the distribution of those LPN's with no standing orders. Over 20 percent have a physician present full or part time and over 70 percent have a physicial on call. Somewhat less than 10 percent, though, have no physician present or on call. A count was made of those who are an only nurse and have no standing orders. These amounted to 15% of all the LPN's, but were 60 percent of all those with no standing orders. To put it a different way, one-third of the occupational health LPN's who were the only nurse had no standing orders.

The following are the number and percent of LPN's working in a health unit which do and do not have a nursing policy and procedure manual:

MANUAL?	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Yes	175	69.2
No	78	30.8
Not Stated	13	--

It is interesting to note that almost 20 percent of the LPN's for which the information was stated have no standing orders or nursing manual (Table A-19). A count was made of those who are the only nurse and have no manual. These amounted to 16.5 percent of all LPN's, but were 56 percent of all those with no manual, or over one-third of the occupational health LPN's who were the only nurse had no manual.

STUDY RESULTS - EDUCATIONAL CHARACTERISTICS

Assessing the training and educational status of the LPN in occupational health was felt to be of great importance. Questions were asked to elicit the LPN's expressed needs for continuing education and to explore career advancement among this group.

Over one-third of the occupational health LPN's received their training in a trade, technical, or vocational school and another one-third received training from a hospital program. The remainder received training in a wide variety of programs which included secondary schools, junior colleges, senior colleges, and the military or by waiver through a Grandperson clause or a RN training waiver (Table A-20).

Over 50 percent of the LPN's had 12 months of training and another 20 percent had 12-23 months of training. Less than 10 percent had under 12 months of training and over 10 percent had 24 months or more of training (Table A-21).

Table A-22 shows the number and percentage of occupational health LPN's by both type of program and months of training. The small numbers in some cells prevent attaching too much importance to these findings. Nevertheless, there are a few differences that should be pointed out. While 50 percent of the LPN's have 12 months training, there were 70 percent of those who went to a Junior College or Trade School who had 12 months of training. Those that had the RN waiver spent a longer time, generally 24 or 25-48 months.

About 10 percent of the occupational health LPN's had been certified for 22 years or more and over 25 percent each for 18-21 years, 12-17 years and 7-11 years. About 10 percent had been certified for 3-6 years. No LPN had been certified less than three years (Table A-23).

Asking for data about former employment in fields of nursing provides insight into determining additional skills needed to perform in occupational health nursing, especially when planning for additional training needs for the LPN in industry.

About 90 percent of the occupational health LPN's had worked in a hospital at some time in their career. Over 40 percent worked in private duty and 35 percent had worked for a private physician. Only 6 percent had been in occupational health nursing for all their career. There were of course several combinations of positions and these are given in Table A-24.

Information about length of experience in industry is interesting, when one considers that over 10 percent of the occupational health LPN's have been in occupational health nursing from 22-41 years, while another 10 percent have been in occupational health nursing 17-21 years. For those 21-16 and 7-11 years the percentages are under 15 percent and under 25 percent respectively. Over 40 percent have been in occupational health nursing 2-6 years (Table A-25).

The question "Have you attended educational programs related to occupational health nursing?" was asked. Almost 65 percent of the occupational health LPN's have not attended any type of occupational health nursing education program. In addition, another 8 percent attended a program which was peripheral to occupational health nursing such as supervision which was mentioned under comments. Of the nearly 30 percent that did attend, nearly one-third went to a first aid course. Other courses that were mentioned included courses in audiometrics, psychology, heart disease, and alcohol/drugs (Table A-26).

Less than 5 percent of the LPN's since receiving a LPN certificate have attended an educational program leading to eligibility for RN licensure. Specifically the numbers and percents are:

TOTAL	NUMBER	PERCENT OF STATED
Total	266	100.0
No	237	95.6
Yes, associate	10	4.0
Yes, diploma	1	0.4
Yes, baccalaureate	0	0
Not Stated	18	--

STUDY RESULTS - ECONOMICS

The U.S. Department of Labor, Bureau of Labor Statistics, has for many years compiled Area Wage Surveys on occupational earnings which included the earnings of registered nurses working in industry. There is no other source to find earnings of LPN's in industry and therefore the question about weekly earnings was included in this survey.

Nearly 40 percent of the occupational health LPN's had a weekly pay before deductions of between $125-149 in 1971. Over 25 percent made between $100 and $124, but somewhat less than 10 percent made under $100 per week. The remainder made $150 or more. Of course these rates of pay may be higher now, since it has been over two years since the questionnaire was filled out (Table A-27).

As might be expected about two-thirds of the LPN's work a 40-hour week. Somewhat under 15 percent work under 40 hours or part time with nearly 20 percent working over 40 hours a week (Table A-28).

Over 70 percent of the occupational health LPN's work the day shift and 15 percent work the evening shift. The night shift accounts for about 5 percent. There are well over 5 percent who work rotating shifts (Table A-29).

STUDY RESULTS - COMMENTS

The last question asked for comments that the respondent wished to make about their work in occupational(industrial) health. About 55 percent (54.8%) had some words of comment describing their feelings concerning occupational health, their problems, their work history, and so on. No one commented on the survey itself except to indicate that they were pleased. This section will be divided into three parts: impressions gained from the comments, a statistical analysis of the comments, and selected verbatim comments.

Comments: Impressions

The immediate impression upon reading these comments is that the LPN working in industry is a highly motivated, satisfied group striving to help the employee. In describing their job such words as "enjoyed," "challenging," an "experience," "gratifying," "rewarding," "fulfilled dream," "interesting," "happy" and "very satisfactory" were used. One woman quit when she was 78 years old because of illness; neither she nor her employer wanted her to retire. Another is presently now working, but going to school to keep up with what is going on - she is 66!

There are problems. The LPN handles a great deal of paperwork - insurance forms and the like - and some do not like this aspect. Others felt that training should be given them in this area and that the LPN in industry should have prior knowledge of typing and office practice. Several mentioned that prior emergency room training is a must.

There is, apparently, little or no continuing education available for the LPN. This was repeatedly requested. They asked about the availability of courses, conferences, meetings only being open to the RN. There appeared to be little envy of the RN except for belonging to professional societies. This appeared to be linked to the lack of continuing education.

Some of the LPN's have been layed off due to mergers, cutbacks, and the like. They would like to continue in the field, however, but they know of no registry which can help them continue. Often these persons are lost from the occupational health field to the hospitals.

Comments: Statistics

Analyzing data of this type is hazardous at best because respondents do not all give the same information and do not express themselves in the same way. The percents given are of all questionnaires received. Thus they reflect the minimum number of respondents who may have this comment.

The first area we considered is how the LPN's feel about their job. Over 20 percent volunteered that they enjoyed their job and/or it was interesting (20.2%). Only 2.2% indicated some sort of negative response.

Somewhat over 10 percent of the respondents indicated reasons for not being in occupational health nursing (11.4%). The most important reason is that the plant shut down and there were no jobs in industry (3.0%). Family responsibilities (2.1%), "prefer work in hospitals" (1.9%), and "moved" (1.8%) were other leading reasons. Others mentioned that there were problems with licensure (such as a State code calling for a RN), poor salary (see also attributes), poorly prepared for responsibility, and poor health (and thus job physically too hard).

A small number of persons (2.3%) indicated positive aspects of the job were money, hours, and fringe benefits. A small number mentioned RN's (1.2% - bad and 0.5% - good) and the administration (1.1% - bad and 0.2% - good).

Paperwork was mentioned by over 5 percent of the respondents (6.5%). Most of those who mentioned paperwork just indicated it was part of the job while the remainder indicated there was too much of it.

In some cases there were job descriptions given. In most cases these referred to assisting with medical procedures, first aid, doing paperwork, and the like. Four areas deserve mention, however. Safety activities were specifically mentioned including serving on the safety committee and informal inspections (1.9%). Mental health activities, which often was described as listening to problems and helping as they could, were part of other LPN activities (1.4%). Family counselling (0.5%) and preventive health education (1.2%) were also mentioned.

Some of the respondents (1.2%) specifically mentioned professional nursing organizations. About half had definite negative feelings. The LPN's felt that organized nursing does not help them and through its restrictive membership keeps the LPN from availing herself of benefits of continuing education, usually provided for members only.

The need for continuing education and courses for LPN's was mentioned by over 5 percent of the respondents (5.7%). The lack of training courses in areas where they work and the inability to find any which they could attend were similar complaints.

Comments: Selected Verbatim Comments

Several comments essentially as written are presented so that further emphasis can be given to the impressions and statistical analysis. These have been edited to eliminate possible sources of identification and repetition among the comments. The insight into the work, the needs, and the ideals of the LPN that these comments give is of great value.

Job Duties: Administers first aid to employees. If injury or illness is deemed sufficiently serious, I send them directly to the hospital or consult with company physicians.

Maintain records, working with actuaries, the Industrial Commission and plant foremen and supervisors.

Assist physician in giving physical examinations. Maintain health and accident records. Counsel employees when requested on matters pertaining to health problems. Process group and Workmen's Compensation insurance claims, maintaining necessary records and preparing reports. Contacts hospital and insurance company. Distribute payment for group insurance to employees. Process incoming and out going mail requiring payment for medical services or supplies and information regarding claims. Types letters and reports. Issues safety glasses for the prescription safety glass program. Has charge of records for plant blood bank. Transfers blood for replacement when necessary. May perform other duties in Personnel Department when required. COMMENTS: I find this field of nursing very rewarding and self-satisfying.

In industrial nursing the nurse, whether she or he, must be able to help the patient physically and many times will be called upon to help them with their mental needs. The man on the assembly line with family or financial problems can be a hazard to his fellow workers as well as himself.

The industrial nurse must be able to walk through the shop and spot safety hazards and get them corrected before an accident occurs. This could be poor lighting, dirty floors, unsanitary rest rooms, unclean water fountains, safety equipment being used improperly or carelessness in use of machinery.

Many times this type of nurse must be able to be an "ambassador of good will" between the employers and employee. In order to do this she will have to get to know the employees or at least some information about them, such as their character, working habits, ability to get along with their fellow workers, or their activities in their community. This can be done when they come into the dispensary over a period of time by listening and asking questions from time to time.

A healthy, happy employee is an asset to the company he works for, also to his community in which he lives.

The valuable knowledge I gained while working and the friends gained are priceless. An LPN if given the opportunity to work in this field should accept it gladly.

Industrial nursing can be very challenging if you work in a small plant of 1200 employees or less as I do. I wouldn't advise it for anyone that's unsure of themselves or can't assume responsibility. Since there usually isn't a doctor on the premises, she has the responsibility of saying who is to be sent to the doctor and who is to be treated in first aid. A good background in first aid is very essential since immediate first aid can sometimes mean the difference in life or death. She (nurse) should also have had a good hospital nursing experience, and be aware of the symptoms of heart attack, CVA, etc., because she is the first person the employee encounters in his distress. The best rule I have found is to know your limitations and stay within them.

As the nurse for my company, I strive each day to become a better nurse, to be ever alert to the safety and concern for the health of the employees, realizing that a good health program will help the employee and through him, his family, to understand the why's and how's of good health practices. I try to understand the employee as a person. I try to be a good listener of a problem presented, in that way I have gained confidence, and assurance that their problem will be kept confidential. How good it makes me feel to help some one that comes into the health unit upset and want to confide a problem. I have seen first hand as to what happens when a person is upset. I know and see how much better work the employee does when he is happy and content in his work, and each day my thought is to "help prevent," encourage, and to be the kind of nurse my company will be proud to have as a company nurse.

Very interesting work to me, I subscribe to the American Journal of Nursing, Practical Nursing Journal and I buy books such as Nursing Clinic and many books put out by W.B. Saunders.

Since I am 71, cannot expect to remain here much longer but dread the time when I will not be able to take care of people. Personal problems are a great deal of my work.

I enjoyed my position in industrial nursing very much. In no other position in nursing I feel can you be so many things to so many people. A shoulder to lean on when needed, just an ear to listen, a confidante of course, a nurse with medical answers. Quick sure hands, and a calm reassuring manner when injury appears. Don't forget too, you must have a "shut mouth" with your people for they tell you many things not wanted to be repeated. You are in a delicate position as an industrial nurse. You must care for your people and show you truly care, and they will reply in kind, yet, you are employed as a part of management and you must maintain the balance between the two.

This is my kind of nursing above all others. It is a grand position for an LPN. I only regret there are not more in this field. We are trained for it, but too many industries will not accept us. It is my sincere hope this will soon change.

I am very happy to be employed as an industrial nurse. Though it may not appear to those who are not similarly employed to be challenging enough, or to have enough opportunity for continuous development in the profession. I find it satisfying to be able to give emergency care, or to give helpful consideration to fellow employees.

I do feel that the profession and industry in this area could expand their interest in industrial nurses and their continued education in the care of emergency treatment for specific types of injuries such as better methods for care of certain kinds of chemical burns (for example) while waiting for ambulance to take them for the truly professional care required.

I found this work quite different from hospital nursing. One must be able to think quickly and make rapid decisions at times. It not only involved health, but spiritual and mental welfare at times. If you are the nurse in charge, as I was, you do not have a supervisor to go to. Think fast and be sure you know what you are doing. I worked in a hospital and private cases for a number of years before taking the position as industrial nurse.

Industrial nursing increases a nurse's knowledge of workmen's compensation. It is a fascinating field also discouraging because the employer really takes it on the chin.

Having a working knowledge and experience in emergency room techniques and procedures is a great advantage for an industrial nurse.

Another advantage is to be a good typist, since many records and reports need to be filed and continuously updated.

Industrial nurses not only handle the medical care, but are normally involved with all phases of insurance: sickness and accident, medical or group insurance, life and must learn or have a thorough knowledge of the workmen's compensation laws for the particular state in which they are working.

Industrial nursing has fulfilled my every dream as to what nursing is all about. Being able to apply formal training; basic work experience; and carrying out doctor's orders spontaneously and skillfully is the most rewarding and the greatest challenge for my mind and body.

I hope to remain in industrial nursing as long as I am a part of the work force, because I find this is the area I am best suited for and in no other areas of nursing have I found needs which have to be met medically; can one get a first-hand report of progress and prognosis because we are on the spot day by day and seeing progress in action.

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*Working as a surgical nurse prior to coming into indus-*trial nursing has been a tremendous help to me. Cleanliness which was stressed and caring for equipment and instruments which also were a very important part of my job in the O.R. are of prime importance here. However, in my case, I feel that communicating with people in all levels and following orders from our plant physician are most important. I love the work I am doing, and serving humanity in whatever need may arise is the code I try to follow.

Fortunately, I received my training from a nurse that had high ideals and I always try to live up to her teaching in the field of nursing - knowing that as a licensed practical nurse, I am qualified to follow the orders given to me by our plant doctor, who is available 24 hours per day.

RN-LPN PROFILE

Reference was made earlier in this report to the survey conducted by NIOSH in 1964 on RN's who work in occupational health. Because the LPN questionnaire was patterned after the one developed for the occupational health nurse inventory, it has been possible to compare like questions. With the exception of monthly salaries (1964), there are certain similarities between these two groups of nurses working in the same setting. The following characteristics are highlighted:

LPN - 1971 OCCUPATIONAL HEALTH NURSE		*RN - 1964 OCCUPATIONAL HEALTH NURSE*
50 and older	*AGE*	45 and older
Female	*SEX*	Female
1950+	*EDUCATION DATE*	1940-1950
Hospital	*PREVIOUS NURSING EXPERIENCE*	Hospital
Hospital or vocational school program, 12 month	*NURSING EDUCATION*	Diploma nursing school, 3 years
$7,000	*SALARY*	$5,500 (1964)
Only unit	*NO. OF HEALTH UNITS IN WORK PLACE*	Only unit
Manufacturing	*TYPE OF BUSINESS*	Manufacturing
250-1000	*NO. OF EMPLOYEES (SIZE OF WORK PLACE)*	500+
Only nurse	*NUMBER OF NURSES*	Only nurse
On call, only	*PHYSICIAN AVAILABLE*	On call, only
Personnel, Employee Relations, Industrial Relations	*RESPONSIBLE TO*	Personnel, Employee Relations, Industrial Relations

SUMMARY

1. How can LPN's supplement RN's in industry?

The "Statement of Functions and Qualifications of the Licensed Practical Nurse," prepared by the National Federation of Licensed Practical Nurses, (NFLPN), 1970, states that "the work of the licensed practical nurse is an integral part of nursing." Data from the NIOSH study cannot substantiate this premise, except as to extent of participation, especially because 75% of the LPN's work as the only nurse. Health care institutions do provide a more stable nursing situation having health professionals available for direction and supervision.

In any organized nursing service, the designated leader is a qualified registered nurse. The registered nurse identifies the levels of competence of nursing personnel. Only in large occupational health nursing services, staffed by one or more registered nurses, can the LPN supplement the nursing service.

Licensed practical nurses can become a potential manpower source to staff occupational health programs for workers if utilized within the standards set by both nursing levels.

2. What additional training in occupational health is needed by the LPN?

Less than 30% of the LPN's had any chance to grow professionally on the job through continuing education courses or staff development. The need for the licensed practical nurse to become a part of a community program for continuing education is serious.

The LPN is providing primary care, is functioning in emergency situations and is attempting to provide emotional support for anxious and disturbed workers. Yet, the LPN has received little academic preparation to perform these skills.

Therefore, it is recommended that avenues for continuing education be opened to the licensed practical nurses for content in providing emergency health services, in coronary heart disease and other chronic diseases, in hearing and vision conservation programs, in new legislation governing the health and safety of industrial workers (The Occupational Safety and Health Act of 1970) and especially in credit courses enabling the LPN to advance to a higher level of nursing practice, i.e. associate degree, or RN diploma.

3. Can the LPN function effectively in the delivery of health care services to workers?

The results of this study demonstrate that the LPN is frequently placed in the position of performing identical functions and duties as the RN in the occupational setting. This may create more problems for the LPN because of the unique isolation in the work place, and the independent nursing role, i.e. only nurse in the industry.

The LPN entering into occupational health nursing faces the same problems as the RN considering that the nurse generally comes from a hospital or clinical experience, then must improve her skills and abilities in occupational health nursing, in first aid, in principles of health maintenance and health prevention, and in counseling and interviewing.

Realistically, the LPN is already functioning in many industrial medical departments in industry. Nevertheless, only with informed management understanding of the role of the LPN, including the limitations for providing direct health services, and with adequate direction from a qualified health professional, can the LPN be expected to function effectively and be accountable for her own practice.

4. What supervision is needed by the LPN in occupational health?

Over half of the LPN's who are the "only nurse" in industry state that they do not have supervision for nursing activities but for a physician on call. Questions may be raised as to the legality of the LPN's practice in industry, the liability of her actions placed upon the employer, and the vulnerability of the LPN's who place themselves in this position. It is the authors' impression from comments made on the survey questionnaire that many of these nurses know and understand their limitations and refer complex and special problems to the "on call" physician. The dilemma still remains, who can supervise the LPN who is the only nurse in the industrial plant?

REFERENCES

1. Division of Nursing, Bureau of Health Manpower Education, National Institutes of Health, USDHEW, PHS, "Licensed Practical Nurses, 1967, an Inventory of Licensed Practical Nurses."

2. Personal Communication.

APPENDIX

TABLE A-1

NUMBER AND PERCENT OF LPN'S PREVIOUSLY BUT NOT NOW IN OCCUPATIONAL HEALTH BY CURRENT WORK: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
CURRENT WORK	NUMBER	PERCENT OF STATED
TOTAL	325	100.0
IN NURSING	132	42.0
Hospital	56	17.8
Clinic/Dr. Office	19	6.1
Extended Care	20	6.4
Private Duty	12	3.8
R.N.	8	2.5
Public Health or School	6	1.9
Other	3	1.0
Unemployed	8	2.5
NOT IN NURSING	182	58.0
Housewife	53	16.9
Retired	49	15.6
Disabled	14	4.5
Dead	3	1.0
Full-time Student	12	3.8
Employed Other Job (Does First Aid on Job)	48 (8)	15.3 (2.5)
Unemployed	3	1.0
NOT STATED	11	--

TABLE A-2

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY COMPANY, FIRM, OR ORGANIZATION: NIOSH LPN STUDY, NOV. 1971.

COMPANY, FIRM, OR ORGANIZATION	LPN'S	
	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Manufacturing	215	86.0
Non-manufacturing	18	7.2
Federal Government	3	1.2
State Government	2	0.8
Local Government	1	0.4
Industrial Clinic	11	4.4
Not Stated	16	--

TABLE A-3

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF EMPLOYEES ENTITLED TO SERVICES FROM THE HEALTH UNIT: NIOSH LPN STUDY, NOV. 1971.

NUMBER OF EMPLOYEES	LPN'S	
	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Under 100	10	3.9
100-249	29	11.4
250-499	72	28.2
500-999	66	25.9
1000-2499	44	17.3
2500-4999	11	4.3
5000 or Over	18	7.1
Seasonal	5	2.0
Not Stated	11	--

TABLE A-4

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF HEALTH UNITS IN WORKPLACE: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
NUMBER OF HEALTH UNITS	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Only	210	84.3
More Than One	28	11.2
Clinic	9	3.6
Other	2	0.8
Not Stated	17	--

TABLE A-5

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF EMPLOYEE VISITS PER DAY TO UNIT: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
VISITS PER DAY	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Under 10	20	8.3
10 - 24	77	32.0
25 - 49	69	28.6
50 - 99	39	16.2
100 - 199	14	5.8
200 - 299	8	3.3
300 and over	5	2.1
Seasonal	9	3.7
Not Stated	25	--

TABLE A-6

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF EMPLOYEE VISITS PER DAY TO THE UNIT AND NUMBER OF EMPLOYEES ENTITLED TO SERVICES: NIOSH LPN STUDY, NOV. 1971.

VISITS PER DAY

Employees	Total	Under 10	10-24	25-49	50-99	100-199	200-299	300+	Season	N.S.
					Number of LPN's					
TOTAL	266	20	77	69	39	14	8	5	9	25
Under 100	10	3	2	3	0	0	0	0	0	2
100-249	29	7	12	7	0	1	0	1	0	1
250-499	72	6	33	21	4	2	0	0	1	5
500-999	66	2	19	20	13	3	1	1	3	4
1000-2499	44	1	4	15	16	3	1	0	0	4
2500-4999	11	0	3	1	3	3	0	0	0	1
5000+	18	0	2	2	3	2	6	3	0	0
Seasonal	5	0	0	0	0	0	0	0	5	0
N.S.	11	1	2	0	0	0	0	0	0	8
					PERCENT OF THOSE STATED					
TOTAL	100.0	*	*	*	*	*	*	*	*	
Under 100	*	1.3	0.8	1.3	-	-	-	-	-	
100-249	*	2.9	5.0	2.9	-	0.4	-	0.4	-	
250-499	*	2.5	13.9	8.8	1.7	0.8	-	-	0.4	
500-999	*	0.8	8.0	8.4	5.5	1.3	0.4	0.4	1.3	
1000-2499	*	0.4	1.7	6.3	6.7	1.3	0.4	-	-	
2500-4999	*	-	1.3	0.4	1.3	1.3	-	-	-	
5000+	*	-	0.8	0.8	1.3	0.8	2.5	1.3	-	
Seasonal	*	-	-	-	-	-	-	-	2.1	

*See Individual Tables

TABLE A-7

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF PERSONS THE LPN GIVES DIRECT CARE IN AN AVERAGE DAY: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
PERSONS GIVEN CARE	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
0 - 9	48	18.8
10 - 19	65	25.4
20 - 29	54	21.1
30+	65	25.4
Variable	24	9.4
Not Stated	10	--

TABLE A-8

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF PERSONS THE LPN GIVES DIRECT CARE AND NUMBER OF EMPLOYEES ENTITLED TO SERVICES: NIOSH LPN STUDY, NOV. 1971.

NUMBER

		Number of Employees								
No. of Persons	Total	Under 10	100-249	250-499	500-999	1000-2499	2500-4999	5000+	Season	N.S.
TOTAL	266	10	29	72	66	44	11	18	5	11
0-9	48	6	10	14	9	4	2	1	1	1
10-19	65	0	9	22	16	8	1	3	3	3
20-29	54	1	5	13	21	9	1	2	0	2
30+	65	1	2	11	15	20	6	10	0	0
Variable	24	1	2	8	5	2	1	1	1	3
N.S.	10	1	1	4	0	1	0	1	0	2

PERCENT OF STATED

TOTAL	100.0	3.6	11.3	27.5	26.7	17.4	4.5	6.8	2.0
0-9	100.0	12.8	21.3	29.8	19.1	8.5	4.3	2.1	2.1
10-19	100.0	--	14.5	35.5	25.8	12.9	1.6	4.8	4.8
20-29	100.0	1.9	9.6	25.0	40.4	17.3	1.9	3.8	-
30+	100.0	1.5	3.1	16.9	23.1	30.8	9.2	15.3	-
Variable	100.0	4.8	9.5	38.0	23.8	9.5	4.8	4.8	4.8

TABLE A-9

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF PERSONS THE LPN GIVES DIRECT CARE AND NUMBER OF VISTIS TO UNIT: NIOSH LPN STUDY, NOV. 1971.

NUMBER

Number of Visits

No. of Persons	Total	Under 10	10-24	25-49	50-99	100-199	200-299	300+	Season	N.S.
TOTAL	266	20	77	69	39	14	8	5	9	25
0-9	48	16	22	3	1	1	0	0	1	4
10-19	65	1	37	9	7	2	0	0	4	5
20-29	54	0	13	30	7	1	0	1	0	2
30+	65	0	0	19	23	7	6	4	2	4
Variable	24	2	3	6	1	3	1	0	2	6
N.S.	10	1	2	2	0	0	1	0	0	4

PERCENT OF STATED

TOTAL	100.0	8.1	31.9	28.5	16.6	6.0	3.0	2.1	3.8	
0-9	100.0	36.4	50.0	6.8	2.3	2.3	-	-	2.3	
10-19	100.0	1.7	61.7	15.0	11.7	3.3	-	-	6.7	
20-29	100.0	-	25.0	57.7	13.5	1.9	-	1.9	-	
30+	100.0	-	-	31.1	37.7	11.5	9.8	6.6	3.3	
Variable	100.0	11.1	16.7	33.3	5.6	16.7	5.6	-	11.1	

TABLE A-10

NUMBER OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF LPN'S WORKING IN UNIT* AND NUMBER OF EMPLOYEES ENTITLED TO SERVICES: NIOSH LPN STUDY NOV. 1971.

NUMBER

Employees Entitled to Service

LPN's in Unit	Total	Under 100	100-249	250-499	500-999	1000-2499	2500-4999	5000+	Season	N.S.
TOTAL	266	10	29	72	66	44	11	18	5	11
1	178	8	26	55	43	26	6	7	2	5
2	48	1	2	11	13	9	4	3	2	3
3	21	1	1	4	6	4	0	3	1	1
4,5	8	0	0	1	3	1	0	2	0	1
6-9	9	0	0	0	0	4	1	3	0	1
10 & over	2	0	0	1	1	0	0	0	0	0

*Includes reporting LPN

TABLE A-11

NUMBER OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF EMPLOYEE VISITS PER DAY TO THE UNIT AND NUMBER OF LPN'S WORKING IN UNIT*: NIOSH LPN STUDY, NOV. 1971.

NUMBER

Visits Per Day

No. of LPN's	Total	Under 10	10-24	25-49	50-99	100-199	200-299	300+	Season	N.S.
TOTAL	266	20	77	69	39	14	8	5	9	25
1	178	19	63	42	23	10	2	3	3	13
2	48	1	8	13	12	3	1	0	4	6
3	21	0	3	10	3	0	1	1	1	2
4,5	8	0	2	0	1	0	1	1	0	3
6-9	9	0	1	3	0	1	3	0	0	1
10 & over	2	0	0	1	0	0	0	0	1	0

*Includes reporting LPN

TABLE A-12

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF PERSONS THE LPN GIVES DIRECT CARE AND NUMBER OF LPN'S WORKING IN UNIT*: NIOSH LPN STUDY, NOV. 1971.

NUMBER

Number of LPN's

No. of Persons	Total	1	2	3	4,5	6-9	10+
TOTAL	266	178	48	21	8	9	2
0-9	48	37	6	2	2	1	0
10-19	65	47	14	2	2	0	0
20-29	54	35	10	8	0	1	0
30+	65	39	14	4	1	5	2
Variable	24	13	4	4	3	0	0
N.S.	10	7	0	1	0	2	0

PERCENT OF STATED

TOTAL	100.0	66.7	18.8	7.8	3.1	2.7	0.8
0-9	100.0	77.1	12.5	4.2	4.2	2.1	-
10-19	100.0	72.3	21.5	3.1	3.1	-	-
20-29	100.0	64.8	18.5	14.8	-	1.9	-
30+	100.0	60.0	21.5	6.2	1.5	7.6	3.1
Variable	100.0	70.0	-	10.0	-	20.0	-

*Including reporting LPN

TABLE A-13

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY NUMBER OF RN'S EMPLOYED IN HEALTH UNIT: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
NUMBER OF RN'S	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
No. RN's	171	64.3
1	57	21.4
2	19	7.1
3,4	13	4.9
5-9	2	0.8
10 & over	4	1.5

TABLE A-14

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY PERSON SUPERVISING THE NURSING DUTIES: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
SUPERVISION BY	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
R.N.	56	21.9
Physician	135	52.7
LPN in Charge	12	4.7
Personnel or Management	10	3.9
None	40	15.6
Other	3	1.2
Not Stated	10	--

TABLE A-15

NUMBER OF OCCUPATIONAL HEALTH LPN'S BY TYPE OF NURSING POSITION HELD AND PERSON SUPERVISING NURSING DUTIES: NIOSH LPN STUDY, NOV. 1971.

	NUMBER SUPERVISED BY							
TYPE POSITION	TOTAL	R.N.	PHYS.	LPN	PERSL. OF MGT.	NONE	OTHER	N.S.
TOTAL	266	56	135	12	10	40	3	10
Only Nurse	120	0	80	0	3	31	0	6
Head Nurse	6	0	3	0	1	1	0	1
Staff Nurse	130	55	45	12	6	7	2	3
Supervisor	4	0	3	0	0	1	0	0
Physical Ther.	4	1	2	0	0	0	1	0
Other	2	0	2	0	0	0	0	0

TABLE A-16

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY DEPARTMENT RESPONSIBLE FOR ADMINISTRATIVE MATTERS: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
DEPT. RESPONSIBLE	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Personnel, Employ. Relations or Indust. Relations	205	77.1
Safety Department	24	9.0
Management	9	3.4
M.D.	17	6.4
Other	6	2.3
Not Stated	5	--

TABLE A-17

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY WHETHER A PHYSICIAN IS PRESENT WHEN THE LPN IS ON DUTY: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
PHYSICIAN ON DUTY	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Yes		
Full Time	29	10.9
Part Time	45	16.9
No		
On Call	186	69.9
Not on Call	6	2.3

TABLE A-18

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY WHETHER PHYSICIAN PRESENT AND WHETHER THERE ARE WRITTEN STANDING ORDERS: NIOSH LPN STUDY, NOV. 1971.

NUMBER

		Standing Orders		
PHYSICIAN PRESENT	TOTAL	NO	YES, NOT SIGNED	YES, SIGNED	N.S.
TOTAL	266	66	35	158	7
Yes, Full	29	9	1	18	1
Yes, Part	45	5	4	36	0
No, On Call	186	47	30	103	6
No, Not On Call	6	5	0	1	0

PERCENT OF STATED

TOTAL	100.0	100.0	100.0	100.0
Yes, Full	10.8	13.6	2.9	11.4
Yes, Part	17.4	7.6	11.4	22.8
No, On Call	69.5	71.2	85.7	65.2
No, Not On Call	2.3	7.6	--	0.6

TABLE A-19

NUMBER OF OCCUPATIONAL HEALTH LPN'S BY WHETHER THERE IS A NURSING POLICY AND PROCEDURES MANUAL AND WHETHER THERE ARE WRITTEN STANDING ORDERS: NIOSH LPN STUDY, NOV. 1971.

	NUMBER			
		Manual		
STANDING ORDER	TOTAL	YES	NO	N.S.
TOTAL	266	175	78	13
No	66	21	44	1
Yes, Not Signed	35	30	3	2
Yes, Signed	158	120	30	8
Not Stated	7	4	1	2

TABLE A-20

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY TYPE OF PROGRAM LPN RECEIVED TRAINING: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
TYPE	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Secondary School	15	5.7
Junior College	19	7.3
Trade, Tech. or Voc. School	94	36.0
Senior College	4	1.5
Hospital	87	33.3
RN Training Waiver	17	6.5
Grandperson Clause*	15	5.7
Military	10	3.8
Not Stated	5	--

*Also known as Grandfather Clause

TABLE A-21

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY MONTHS IN TRAINING: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
MONTHS	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Under 12 1/	21	8.3
12 Months	132	52.2
13-23 Months	52	20.6
24 Months	13	5.1
25-48 Months	20	7.9
Grandperson Clause*	15	5.9
Not Stated	13	--

1/ Lowest was 3 months
*Also known as Grandfather Clause

TABLE A-22

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY TYPE OF PROGRAM LPN RECEIVED TRAINING AND MONTHS IN TRAINING: NIOSH LPN STUDY, NOV. 1971.

	NUMBER							
	Months							
TYPE PROGRAM	TOTAL	UNDER 12	12	13-23	24	25-48	GRAND-PERSON	N.S.
TOTAL	266	21	132	52	13	20	15	13
Secondary	15	2	7	3	0	0	0	3
Junior	19	0	13	4	0	1	0	1
Trade	94	5	66	19	1	1	0	2
Senior	4	0	3	1	0	0	0	0
Hospital	87	11	39	20	6	8	0	3
RN Waiver	17	1	0	3	5	7	1	0
Grandperson	15	0	1	0	0	0	14	0
Military	10	2	2	2	0	3	0	1
N.S.	5	0	1	0	1	0	0	3
	PERCENT OF STATED							
TOTAL	100.0	8.4	52.2	20.7	4.8	8.0	6.0	
Secondary	100.0	16.7	58.3	25.0	-	-	-	
Junior	100.0	-	72.2	22.2	0	5.6	-	
Trade	100.0	5.4	71.7	20.7	1.1	1.1	-	
Senior	100.0	-	75.0	25.0	-	-	-	
Hospital	100.0	13.1	46.4	23.8	7.1	9.5	-	
RN Waiver	100.0	5.9	-	17.6	29.4	41.2	5.9	
Grandperson	100.0	-	6.7	-	-	-	93.3	
Military	100.0	22.2	22.2	22.2	-	33.3	-	

TABLE A-23

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY YEAR CERTIFIED: NIOSH LPN STUDY, NOV. 1971.

		LPN'S	
YEAR CERTIFIED	YEARS FROM 1971	NUMBER	PERCENT OF STATED
TOTAL		266	100.0
1930-1939	42-32	3	1.2
1940-1949	31-22	20	8.0
1950-1954	21-18	68	27.2
1955-1959	17-12	63	25.2
1960-1964	11-7	71	28.4
1965-1968	6-3	25	10.0
Not Stated		16	--

TABLE A-24

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY OTHER POSITIONS HELD: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
OTHER POSITIONS	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Hospital Only	96	36.4
Hospital & Private Duty	51	19.3
Hospital & Doctor's Office	34	12.9
Hospital, Priv. Duty & Dr. Office	46	17.4
Hospital and Misc.	10	3.8
Private Duty and/or Dr. Office	11	4.2
Occ. Health Nursing Only	16	6.1
Not Stated	2	--

TABLE A-25

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY THE YEAR FIRST STARTED IN OCCUPATIONAL HEALTH NURSING: NIOSH LPN STUDY, NOV. 1971.

YEAR STARTED OCCUPATIONAL HEALTH NURSING	YEARS UNITL 1971	LPN'S	
		NUMBER	PERCENT OF STATED
TOTAL		266	100.0
1930-1939	41-32	5	1.9
1940-1949	31-22	26	9.9
1950-1954	21-17	26	9.9
1955-1959	16-12	36	13.7
1960-1964	11-7	62	23.7
1965-1969	6-2	106	40.5
1970-1971	1-0	1	0.4
Not Stated		4	--

TABLE A-26

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY WHETHER LPN ATTENDED OCCUPATIONAL HEALTH NURSING EDUCATION PROGRAMS: NIOSH LPN STUDY, NOV. 1971

OCCUPATIONAL HEALTH EDUCATION	LPN'S	
	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
No	164	64.1
Yes	72	28.1
First Aid	25	9.8
Audiometric	9	3.5
Psychology	4	1.6
Heart	9	3.5
Alcohol/Drugs	2	0.8
Workshops	6	2.3
Not Stated	17	6.6
Other Education Mentioned	20	7.8
Not Stated	10	--

TABLE A-27

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH LPN'S BY WEEKLY PAY BEFORE DEDUCTIONS: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
SALARY	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Under $100	22	8.9
$100-124	71	28.7
$125-149	93	37.7
$150-174	40	16.2
$175-199	13	5.3
$200 and Over	8	3.2
Not Stated	19	--

TABLE A-28

NUMBER AND PERCENT OF OCCUPATOINAL HEALTH LPN'S BY NUMBER OF HOURS IN THE USUAL WORK WEEK: NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
HOURS	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Part Time	8	3.0
Under 40	27	10.2
40	176	66.4
44	32	12.1
48	16	6.0
48+	3	1.1
Seasonal	3	1.1
Not Stated	1	--

TABLE A-29

NUMBER AND PERCENT OF OCCUPATIONAL HEALTH
LPN'S BY SHIFT SCHEDULED TO WORK:
NIOSH LPN STUDY, NOV. 1971.

	LPN'S	
SHIFT	NUMBER	PERCENT OF STATED
TOTAL	266	100.0
Day	190	71.4
Evening	40	15.0
Night	13	4.9
Rotating	18	6.8
Other	5	1.9

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